IN THE CLAIMS

Kindly amend the claims to read as follows:

1. (original) A semiconductor device, comprising: a semiconductor host material, having a valence-band energy, E_V, a conduction-band energy, E_C, and an energy gap, E_G; a deep-level region, formed in said host material, the deep-level region having one or more deep-level state(s) with energy at least 0.05 E_G above E_V and at least 0.05 E_G below E_C; and, means for injecting carriers into the deep-level region to produce transition(s) between one or more of the deep-level state(s) and the conduction- or valence-band or another deep-level of the host material.

2. (original) A semiconductor device, as defined in claim 1, wherein the deep-level region comprises an optically-active region in which transitions between deep-level state(s) and the conduction- or valence-band or another deep-level of the host material produce or absorb photons.

3. (original) A semiconductor device, as defined in claim 1, wherein the means for injecting carriers into the deep-level region directly injects carriers into one or more of the deep-level state(s) without having to first enter the deep-level region's conduction or valence band.

4. (original) A semiconductor device, as defined in claim 1, wherein the host material is an elemental semiconductor.

5. (original) A semiconductor device, as defined in claim 1, wherein the host material comprises a direct bandgap elemental semiconductor material.

6. (original) A semiconductor device, as defined in claim 1, wherein the host material comprises an indirect bandgap elemental semiconductor material.

7. (original) A semiconductor device, as defined in claim 1, wherein the host material is a compound semiconductor.

8. (original) A semiconductor device, as defined in claim 1, wherein the host material comprises a direct bandgap compound semiconductor material.

9. (original) A semiconductor device, as defined in claim 1, wherein the host material comprises an indirect bandgap compound semiconductor material.

10. (original) A semiconductor device, as defined in claim 1, wherein the host material is an elemental semiconductor from Group IVA of the periodic table.

11. (original)A semiconductor device, as defined in claim 1, wherein the host material is one of: C, Si, Ge, Sn, or Pb.

12. (original) A semiconductor device, as defined in claim 1, wherein the host material comprises a direct bandgap alkali-halide compound.

13. (original) A semiconductor device, as defined in claim 1, wherein the host material

comprises an indirect bandgap alkali-halide compound.

14. (original) A semiconductor device, as defined in claim 1, wherein the host material is an alkali-halide compound.

15. (original) A semiconductor device, as defined in claim 1, wherein the host material is one of: LiF, LiCl, LiBr, LiI, LiAt, NaF, NaCl, NaBr, NaI, NaAt, KF, KCl, KBr, KI, or KAt.

16. (original) A semiconductor device, as defined in claim 1, wherein the host material comprises a direct bandgap binary semiconductor compound.

17. (original) A semiconductor device, as defined in claim 1, wherein the host material comprises an indirect bandgap binary semiconductor compound.

18. (original) A semiconductor device, as defined in claim 1, wherein the host material is a

binary compound formed from Groups IIB and VIA of the periodic table.

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127. (withdrawn) A method for making an optically-active semiconductor device, comprising: providing a semiconductor host material, having a valence-band energy, E_V, a conduction-band energy, E_C, and an energy gap, $E_G=E_C-E_V$; processing a region of said host material to create an optically-active region wherein a conduction-band-to-deep-level or deep-level-to-valence-band or deep-level-to-deep-level transition produces light of a desired wavelength; and, abutting the optically-active

region with a material selected to enhance carrier transport that supports the desired light-producing transition.

128. (withdrawn) A method for making a deep-level-semiconductor-device, comprising: providing a semiconductor host material, having a valence-band energy, E_V, a conduction-band energy, E_C, and an energy gap, $E_G=E_C-E_V$; processing to create a deep-level region containing deep-level energy state(s) useful for electrical or optoelectronic or optical devices; and, abutting the deep-level region with a material selected to enhance carrier transport that supports desired transition(s) involving one or more of the deep-level state(s).

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230. (new) A semiconductor device, as defined in claim 1, wherein the host material is one of: ZnO, ZnS, ZnSe, ZnTe, ZnPo, CdO, CdS, CdSe, CdTe, CdPo, HgO, HgS, HgSe, HgTe, or HgPo.

231. (new) A semiconductor device, as defined in claim 1, wherein the host material is a binary compound formed from Groups IIIA and VA of the periodic table.